

PAPER NO.
13



THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

DANIEL A. BEAULIER

Serial No. 740,297

Filed: May 31, 1985

Title: ELECTRONIC STILL STORE
WITH HIGH SPEED SORTING
AND METHOD OF OPERATION

Art Unit: 262

Examiner: D. Harvey

Attorney Docket No. AV-3033 N1

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ton, D.C. 20231, or 1-28-86

Sir:

Brady A. Perkins 1-28-86
Brady A. Perkins, Reg. # 31406 DATE

AMENDMENT

In response to the first Office Action dated September 3, 1985, please amend the
above-identified application as follows:

IN THE CLAIMS:

Please cancel Claim 1.

Please amend Claim 2 as follows:

2. (Once Amended) An electronic still store system comprising:
an image store for retrievable storing therein a plurality of image frame copies of
frames of video images, the image frame copies comprising [with both] a full spatial
resolution image frame copy and a reduced spatial resolution image frame copy of each
frame of video images [image frame being stored];

a frame store which is operable in a first mode to receive and store one of said
full spatial resolution image frame copies [frames of video images] from the image store
and repetitively generate a full spatial resolution output image frame and operable in a
second mode to receive from the image store and store a plurality of said reduced spatial

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resolution image frame copies [frames], the frame store being further operable in the second mode to repetitively generate [an] a reduced spatial resolution output image frame having an image frame comprising a [from each of the] plurality of said reduced spatial resolution image frame copies [frames] selectively located at [a] different [position] positions within the output image frame; and

a size reducer coupled to receive from the frame store a full spatial resolution image frame copy and in response thereto to return to the frame store a reduced spatial resolution image frame copy and wherein the frame store is operable to receive and store the reduced spacial resolution image frame copy while continuing to store the full spatial resolution image frame copy.

[Please amend Claim 3 as follows:]

3. (Once Amended) The electronic still store system according to claim 2 above, wherein the reduced spatial resolution image frame copies [frames] each have a spatial resolution of one-fourth the spatial resolution of the full spatial resolution image frame copies [frames] in each dimension [of an image].

[Please amend Claim 4 as follows:]

4. (Once Amended) The electronic still store system according to claim [1] 2 above, further comprising a central processing unit, controlled by an operator, coupled to select [in response to control by an operator] which of said image frame copies are retrieved from the image store and the location within the frame store at which each of said image frame copies [copy] is stored.

[Please amend Claim 5 as follows:]

5. (Once Amended) The electronic still store system according to claim [1] 2 above, further comprising a central processing unit, controlled by an operator, which is coupled [to select in response to control by an operator] to command the retrieval of a plurality of reduced spatial resolution image frame copies [frames] from the image store and to select the placement of the retrieved image frame copies [frames as reduced size image frames] within [an] said reduced spatial resolution output image frame generated by the frame store.

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[Please amend Claim 6 as follows:]

6. (Once Amended) The electronic still store system according to claim 5 above, further comprising an output digital-to-analog convertor coupled to receive said output image frames from the the frame store and in response thereto to generate an analog video signal representing the received output image frames; and a monitor coupled to receive the analog video signal and display the output image frames represented thereby.

[Please amend Claim 7 as follows:]

7. (Once Amended) The electronic still store system according to claim 6 above, further comprising a video input generating an analog video signal representing a sequence of input video image frames and an analog-to-digital converter coupled between the video input and the frames store and converting the analog video signal to a digital form in which digital data representing [a] said input video image frame can be received and stored by the frame store.

[Please amend Claim 8 as follows:]

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8. (Once Amended) The electronic still store system according to claim 7 above, further comprising a user console coupled to receive operator commands and output [received] operator command signals [commands] to a central processing unit, the central processing unit coupled to receive the operator command signals [commands] output by the operator console and in response thereto to generate control signals for controlling system devices including the input analog-to-digital converter, the image store, the frame store, the size reducer, and the output digital-to-analog converter, and a system bus [coupling] supplying the control signals to the controlled system devices.

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[Please amend Claim 9 as follows:]

9. (Once Amended) A video still store system comprising:

a size reducer coupled to receive, from a frame store capable of simultaneously storing both a full size and a reduced size image data sets, a full size image data set representing a full size image frame and produce and return to said frame store a reduced size image data set representing a corresponding reduced size image frame in response thereto;

an image store for storing a plurality of said full size image data sets representing a plurality [of frames] of full size images frames and for storing a plurality of reduced size image data sets representing a plurality of reduced size image frames [images], each of said reduced size image data sets corresponding to one of the full size image data sets [images, said reduced size images occupying less space within said image store than said full size images]; and

[a] said frame store coupled to selectively receive from either an external source or the image store and store one of said [a frame of] full size image data sets representing a full size image frame to selectively [repetitively] retrieve and output a stored [frame of the] full size image data set, to retrieve and communicate to the size reducer the stored [frame of] full size image data set, to receive from the size reducer and store said [a frame of] reduced size image data set representing a reduced size image frame corresponding to the stored full size image data set, to selectively retrieve and output to the image store both the [frame of] full size image data set and the [frame of] reduced size image data set, and to receive from the image store and store a plurality [of frames] of reduced size image data sets with the reduced size image data sets for each different reduced size image frames being stored in a different location within the frame store such that when the frame store operates to [repetitively retrieve and] output a stored frame of full size image data set for use by a device generating a television signal, the reduced size [images] image frames represented by the reduced size image data sets are disposed at different selected locations within an output image frame represented by a [repetitively retrieved and output frame of] full size image data set.

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Please amend Claim 10 as follows:

10. (Once Amended) An electronic still store system comprising:

a size reduce which receives normal size image data, from a frame store capable of simultaneously storing both full size and reduced size image data, representing a normal size video image and converts the normal size image data to reduced size image data representing a reduced size video data image and returns said reduced size image data to said frame store;

Amended

[a] said frame store coupled to receive and store at first selected locations therein normal size image data [representing a video image], the frame store being coupled to communicate full size image data to the size reducer, to receive back from the size reducer reduced size image data, to store the reduced size image data received from the size reducer in second selected locations in the frame store, and to repetitively output the full size image data, the frame store being further operable to receive and store in the first selected locations [image data representing] a plurality of reduced size image data images to form a single normal size video image comprised of the plurality of reduced size video images; and

an image store coupled to receive from the frame store, store and retrieve, said normal image data and said reduced size image data [image data representing a plurality of normal size images and image data representing a reduced size image of each of the normal size images, said reduced size images occupying less space within said image store than said full size images].

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[Please amend Claim 11 as follows:]

11. (Once Amended) A video still store system comprising:

a size reducer coupled to receive, from a frame store capable of simultaneously storing both a full size and a reduced size image data set, a full resolution image data set representing [a frame of] a full resolution image frame and produce and return to said frame store a reduced resolution image data set representing [a frame of] a corresponding reduced resolution image frame in response thereto;

an image store for storing a plurality of said full resolution image data sets representing a plurality [of frames] of full resolution image frames [images] and a plurality of reduced resolution image data sets representing a plurality of reduced resolution image frames [images], each reduced resolution data set corresponding to one of the full resolution image data sets [images]; and

[a] said frame store operably coupled to selectively receive from either an external source or the image store and store a [frame of] full resolution image data set representing a full resolution image frame, to repetitively retrieve and output a stored [frame of the] full resolution image data set, to retrieve and communicate to the size reducer the stored [frame of] full resolution image data set, to receive from the size reducer and store a [frame of] reduced resolution image data set representing a reduced resolution image frame corresponding to the stored full resolution image frame, to selectively retrieve and output to the image store both the [frame of] full resolution image data set and the [frame of] reduced resolution image data set, and to receive from the image store and store a plurality of [frames of] reduced resolution image data sets [with the reduced resolution image data], without cutting or further reducing said reduced resolution image data set, for each different reduced resolution image data set being stored in a different location within the frame store [which] such that when the frame store operates to repetitively retrieve and output a stored frame of full resolution image data set, the reduced resolution image frames [images] represented by the reduced resolution image data sets are disposed at different selected locations within an output image represented by the repetitively retrieved and outputted [output frame of] full resolution image data set.

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[Please amend Claim 12 as follows:]

12. (Once Amended) The method of operating a video still store system having an image store and a frame store coupled for bidirectional communication of video data with the image store comprising the steps of:

writing into the image store video data representing a plurality of full resolution image frames [images];

reducing said video data representing a plurality of full resolution image frames;

writing into the image store for each said full resolution image frame said video data representing a reduced resolution image frame copy thereof, in response to said writing into the image store video data representing a plurality of full resolution image frames [said reduced resolution copy of each said full resolution image occupying less space within said image store than said full resolution image]; and

transferring from the image store to the frame store for assembly in the frame store as a single composite image, said video data representing a reduced resolution image frame copy of each of a selected plurality of reduced resolution image frame copies [images].

[Please amend Claim 13 as follows:]

13. (Once Amended) The method of operating a video still store system according to claim 12 above, wherein each reduced resolution image frame copy has a spatial resolution of one-fourth the spatial resolution of the corresponding full resolution image frame in each of two display dimensions.

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Please amend Claim 14 as follows:

14. (Once Amended) The method of operating a video still store system having an image store and a frame store coupled to receive video data from the image store comprising the steps of:

writing into the image store video data representing a plurality of full resolution image frames [images];

reducing said video data representing a plurality of full resolution image frames;

writing into the image store for each said full resolution image said frames video data representing a reduced resolution image frame copy thereof, in response to said writing into the image store video data representing a plurality of full resolution image frames [said reduced resolution copy of each said full resolution image occupying less space within said image store than said full resolution image];

transferring from the image store to the frame store video data representing a reduced resolution image frame copy of each of a selected plurality of reduced resolution image frames [images]; and

storing the transferred video data in the frame store in locations selected to produce a composite output image frame having each of the reduced resolution image frames [images] represented by the transferred video data positioned at a selected different position within the composite output image frame.

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Please add Claim 15 as follows:

15. A video still store system comprising:

a size reducer coupled to receive a full size image data set representing a full size image frame and produce reduced size image data set representing a corresponding reduced size image frame in response thereto;

an image store for storing a plurality of said full size image data sets representing a plurality of full size image frames and for storing a plurality of reduced size image data sets representing a plurality of reduced size image frames, each of said reduced size image data sets corresponding to one of said full size image data sets; and

a frame store coupled to selectively receive from either an external source or said image store and store one of said full size image data sets, said frame store is operable such that when a full size image data set is received from an external source or is received from said image store and said image store does not contain a corresponding reduced size image data set, said frame store outputs a copy of said full size image data set to said size reducer and in response thereto receives a corresponding reduced size image data set which is outputted to said image store for storage with the corresponding full size image data set.

REMARKS

The first Office Action of September 3, 1985 has been carefully considered. Reconsideration of the application, as amended, is respectfully requested.

Claims 1 through 14 are pending in this application. Claims 1 through 14 have been amended and Claim 15 has been added.

Claims 1 through 14 were rejected under 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention.

Claim 1 has been cancelled.

The Examiner notes a number of problems with Claim 2 in regards to the use of image frames. Applicant has made a number of changes to Claim 2 to correct the problems along the lines suggested by the Examiner. Other changes have been made to Claim 2 for the sake of internal consistency. Claim 2 has been amended to make clear that "a full spatial resolution image frame" refers to "image frame copy".

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Claim 3 has been amended to conform to the changes in Claim 2. Claim 3 has further been amended by removing "of an image" that is considered indefinite by the Examiner.

In Claim 4, the Examiner objects to "in response to control by an operator". Claim 4 has been amended to make clear that the central processing unit is "controlled by an operator". The Examiner notes that "image frame copies", in Claim 4, should be preceded by "said". This has been done.

Claim 5 has been amended to conform with amended Claim 1 as requested by the Examiner. The control by an operator has been corrected as was done in Claim 4. The "output image frame" now, also, has the proper antecedent basis.

Claim 6 has been amended to conform to Claim 5 as requested by the Examiner. The phrase "image frames" is now "output image frames", thus supplying the antecedent basis required.

The Examiner finds the phrase "sequence of video image frames" in Claim 7 indefinite. This has been amended to read "input video image frames" throughout the claim, thus making it clear that these are not the "plurality" referred to in Claim 2.

In Claim 8, the operator console now outputs "operator command signals", thus correcting any inconsistency. This change also answers the question about the phrase "by the operator console". As requested, the word "coupling" used in reference to the system bus has been changed to "supplying".

The Examiner has a number of objections to Claim 9. Applicant believes that amended Claim 9 answers all these objections. The use of "image data" and "frames of image data" has been clarified. "Each corresponding", "repetitively retrieve", and "represented by a repetitively..." have each been rewritten.

Claim 10 has been extensively rewritten to satisfy the objections of the Examiner. Applicant believes amended Claim 10 to now be definite.

Applicant has amended Claims 11-14 along the lines discussed above. Applicant has further reviewed all the pending claims and has amended all the claims in light of the Examiner's 35 USC 112 objections. The applicant believes all the pending claims are now definite and satisfy the requirements of 35 USC 112. As Claims 2 and 3 are not rejected on any prior art basis, they are believed to be condition for allowance.

The Applicant's invention provides for an electronic still store system for storing, in an image store, a plurality of full resolution image frames and in response thereto,

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storing a plurality of reduced spatial resolution image frames produced by a size reducer. The system has frame store which is capable of storing both a full resolution image frame and reduced spatial resolution image frame. The frame store additionally operates in two modes. In the first mode, both a full spatial resolution image frame is received from the image store to generate an output image frame. In the second mode, a plurality of reduced spatial resolution image frames are received from the image store to generate an output image frame.

The Examiner rejected Claims 1, and 4 through 14 under 35 U.S.C. 103 as being unpatentable over the publication by Hugh Boyd, Quantel.

Claim 1 has been cancelled and dependent Claims 4 and 5 have been amended to be dependent on Claim 2. Claim 6 remains dependent on Claim 5, Claim 7 remains dependent on Claim 6, and Claim 8 remains dependent on Claim 7. As Claim 2 was not rejected on the basis of any prior art and dependent Claims 4 through 8 add considerable detail, Claims 4 through 8 are believed to be in condition for allowance.

The Boyd publication discloses a system for the storage and retrieval of video image frames. The Boyd system does not teach the use of a frame store that is capable of storing both a full resolution image frame and a corresponding reduced spatial resolution image frame at the same time. Amended Claims 9 through 11 all require the use of such a frame store. Support for this amendment can be found generally throughout the specification and specifically in Claim 2. Thus the applicant believes that amended Claims 9 through 11 are in condition for allowance.

Claims 12 and 14 have been amended such that the operation of the size reducer in producing the reduced size image data set from the corresponding full size image data set is "in response" to the writing of the full size image data set into the frame store. Boyd clearly does not teach this responsive use of the size reducer. To perform such an operation with the Boyd system an operator would have to orchestrate each step. Thus the applicant believes that amended Claims 12 and 14 are patentably distinguishable over the Boyd disclosure.

Amended Claim 13 is dependent upon amended Claim 12 and adds considerable detail and thus is also believed to be in condition for allowance.

Claim 15 has been added to more precisely claim the applicant's inventive concept. Claim 15 calls for "a frame store coupled to selectively receive from either an external source or said image store and store one of said full size image data sets". Further the

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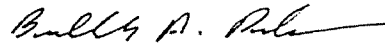
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"frame store is operable such that when a full size image data set is received from an external source or is received from said image store and said image store does not contain a corresponding reduced size image data set, said frame store outputs a copy of said full size image data set to said size reducer". This automatic use of the size reducer is clearly not taught by the Boyd publication. Again, this type of operation would require complete operator orchestration in the Boyd system. Support for this Claim can be found at least on page 3 of the specification. The applicant believes that Claim 15 is patentably distinguishable over the Boyd publication.

The Yamamoto et al reference, which was cited but not applied, does not appear to be pertinent to the claims.

In the event that this amendment does not place this application fully in condition for immediate allowance for any reason, a telephone interview is respectfully requested at the number listed below if the Examiner believes such an interview would be productive.

Respectfully submitted,
Daniel A. Beaulier



by Bradley A. Perkins
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Registration No. 31,406
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January 28, 1986

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DATE MAILED: 03/23/80

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1. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-15 contain numerous section 112 problems such as not providing antecedent basis and the use of confusing language. The following changes exemplify some of the clarifications that are required.

In claim 2, line 2, "retrievable" should read --retrievably--. In line 10, "copies" should read --copies each at selectively located different positions--. In line 12, "having an image frame" should be deleted. In line 12, "a" should read --the stored--. In lines 13-14, "selectively located... output image frame" should be deleted. In line 15, "a full" should read --the stored full--. In line 16, "a" should read --a corresponding--. In line 18, "reduced spacial" should read --corresponding reduced spatial--. In line 18, "the full" should read --the stored full--.

In claim 4, line 2, "location" should read --different positions--. In line 4, "said" should read --said retrieved--.

In claim 5, line 3, "a" should read --the--. In line 5, "the placement of" should read --the different positions for--. In lines 6 and 7, "reduced spatial resolution... generated by the" should be deleted.

In claim 7, line 2, "analog" should read --input analog--. In line 4, "and converting" should read --input analog--. In line 5, "frame" should read

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--frames--.

In claim 8, line 3, "a central" should read --the central--.

Claim 9 could be corrected if it read as follows:

--9. A video still store system comprising:

an image store for storing a first plurality of full size image data set representing a plurality of full size image frames and for storing a plurality of reduced size image data sets representing a plurality of reduced size image frames each of said reduced size image data sets corresponding to one of the full size image data sets;

an external source providing a second plurality of full size image data sets;

a size reducer coupled to receive, from a frame store capable of simultaneously storing both one of said full size image data sets and one of said reduced size image data sets, a stored one of said full size image data sets and which produces and returns to the frame store the corresponding reduced size image data set;

said frame store being coupled to selectively receive from either the external source or the image store and to store said one of said full size image data sets, to output as an output image frame the stored one of said full size image data sets, to communicate to the size reducer the stored one of said full size image data sets, to receive from the size reducer and to store the corresponding reduced size image data

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set, to provide to the image store both the stored one of said full size image data sets and the corresponding reduced size image data set, to receive from the image store and to store at different selected locations selected ones of said plurality of reduced size image data sets, and to output as said output image frame the stored selected ones such that the selected ones are disposed at different locations within the output image frame;

a device which receives the output image frame and generates a television signal.--

Claims 10-15 require similar clarifications as exemplified above.

2. The applicant is asked to review the claims and to correct any section 112 problems similar to those exemplified above.

3. Claims 2-15 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112.

The applicant is asked to update the present status of the copending application cited on page 5 of the disclosure.

4. Applicant's amendment necessitated the new grounds of rejection. Accordingly, THIS ACTION IS MADE FINAL. See MPEP 706.07(a).

Applicant is reminded of the extension of time policy set forth in 37 CFR 1.136(a). The practice of automatically extending the shortened statutory period an additional month upon the filing of a timely first response to a final rejection has been discontinued by the Office. See 1021 TMOG 35.

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL

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ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Harvey whose telephone number is (703) 557-9165.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 557-3321.

DE Harvey:dli DA

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(703) 557-9165

John W. Shepperd
JOHN W. SHEPPERD
PRIMARY EXAMINER
GROUP 260

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RESPONSE UNDER 37 CFR 1.116

EXPEDITED PROCEDURE

EXAMINING GROUP 262

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

DANIEL BOULIER

Serial No.: 740,297

Group Art Unit: 262

Filed: 31 May 1985

Examiner: D. Harvey

For: ELECTRONIC STILL STORE
WITH HIGH SPEED SORTING
AND METHOD OF OPERATIONCERTIFICATE OF MAILING BY "EXPRESS MAIL"
"Express Mail" Mailing Label No. 576687191Date of Deposit
I hereby certify that this paper or fee is being deposited
with the United States Postal Service "Express Mail Post
Office to Addressee" service under 37 CFR 1.10 on the date
indicated above and is addressed to the Commissioner of
Patents and Trademarks, Washington, D.C. 20231.RESPONSE UNDER 37 CFR
EXPEDITED PROCEDURE
EXAMINING GROUP 262Kathy E. McKenna
(Typed or Printed Name of Person Mailing Paper or Fee)Box AF
The Honorable Commissioner of Patents
and Trademarks
Washington, D.C. 20231Kathy E. McKenna
(Signature of Person Mailing Paper or Fee)

Sir:

In response to the Office Action mailed 3 September
1985, please enter the following amendment.In the SpecificationAt page 1, line 11 after "may" and before "be", delete
"than" and substitute --then--.At page 2, line 25, delete "positioned reduce" and
substitute --positioned, reduced--.At page 5, line 1, delete "referred" and substitute
--preferred--. At line 27, delete "fourth" and
substitute --forth--.At page 6, line 4, insert after "22" and before "is"
--, which in the preferred embodiment is a random access
memory,--. At line 8, after "24" and before "." insert
--in the preferred embodiment but which can be any bulk
storage memory device in other embodiments--.

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At page 7, line 9, delete "resolutioncopy" and substitute --resolution copy--. At line 16, delete "usedin" and substitute --used in--. At line 19, delete "continous" and substitute --continuous--.

At page 8, line 7, delete "take" and substitute --taken--. At line 6, after "array" and before "within" insert --as a mosaic which fits--.

In the Drawings

Please approve the drawing change marked in green on the enclosed sketch.

In the Claims:

2. (Twice Amended) An electronic still store system comprising:

an image store means for [retrievable] retrievably storing therein a plurality of image frame copies of video frames [of video images], the image frame copies comprising data representing a full spatial resolution image [frame copy] and [a] corresponding data representing a reduced spatial resolution image [frame copy] of each frame of video [images] data;

a frame store means which is operable in a first mode [to receive and store] for receiving and storing one of said full spatial resolution images [frame copies] from [the] said image store means and for repetitively [generate] generating a full spatial resolution [output] image [frame] output and operable in a second mode [to receive] for receiving from the image store means and [store] storing a plurality of said reduced spatial resolution images [image frame copies] each at selectively located different positions, the frame store means being further operable in the second mode [to] for repetitively generating [generate a reduced spatial resolution] output

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image [frame having an image frame] comprising [a] the stored plurality of said reduced spatial resolution images [image frame copies selectively located at different positions within the output image frame]; and

a size reducer means [coupled to receive] for receiving from the frame store [a] the stored full spatial resolution image [frame copy] and in response thereto [to return] returning to the frame store means a corresponding reduced spatial resolution image [frame copy] and wherein the frame store is operable [to receive and store] for receiving and storing the corresponding reduced spatial resolution image [frame copy] while continuing to store the stored full spatial resolution image [frame copy].

3. (Twice Amended) The electronic still store system according to claim 2 [above], wherein the corresponding reduced spatial resolution image [frame copies] each have a spatial resolution of [one-fourth] one-fourth the spatial resolution of the corresponding full spatial resolution image [frame copies in each dimension].

4. (Twice Amended) The electronic still store system according to claim 2 [above], [further comprising] wherein said frame store means includes a central processing unit, controlled by an operator, coupled and operable in said first mode to select which of said [image frame copies] full spatial resolution images stored in said image store means are to be retrieved from the image store means and coupled and operable in said second mode to select which of said reduced spatial resolution images stored in said image store means are to be retrieved and stored in said frame store means and to select the [location] different positions within the frame store means at which each of

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said retrieved [image frame copies] reduced spatial resolution images is stored.

Please cancel claim 5.

6. (Twice Amended) The electronic still store system according to claim [5 above] 4, wherein said frame store means further [comprising] comprises an output digital-to-analog converter coupled to receive [said] output image data [frames] from the [the] frame store means and in response thereto to generate an analog video signal representing the received output image [frames]; and

a monitor coupled to receive the analog video signal and display the output image [frames] represented thereby.

7. (Twice Amended) The electronic still store system according to claim 6 [above], further comprising a video input means for generating an input analog video signal representing [a sequence of] an input video image [frames] and an analog-to-digital converter coupled between the video input means and the frame[s] store means [and] for converting the input analog video signal to a digital form [in which] such that digital data representing said input video image frame [can be] is received and stored by the frame store means.

Please cancel claims 8 through 14.

15. (Amended) A video still store system comprising:
a size reducer coupled to receive a full size image data set representing a full size image frame and to produce a reduced size image data set representing a corresponding reduced size image frame in response thereto;

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an image store for storing a plurality of said full size image data sets representing a plurality of full size image frames and for storing a plurality of corresponding reduced size image data sets representing a plurality of reduced size image frames, each of said reduced size image data sets corresponding to one of said full size image data sets; and

a frame store means coupled to selectively receive from either an external source or said image store and store one of said full size image data sets, said frame store [is] being operable such that when a full size image data set is received from an external source or is received from said image store and said image store does not contain a corresponding reduced size image data set, said frame store outputs a copy of said full size image data set to said size reducer and [in response thereto] receives a corresponding reduced size image data set which is outputted to said image store for storage with the corresponding full size image data set.

Please add new claims 16-28.

16. An apparatus for storing video images as pixel data comprising:

means for receiving and storing in a first memory pixel data representing video images having a first resolution, and for generating from said pixel data representing said video image at said first resolution pixel data representing a corresponding image having a second, lower resolution and for storing said second resolution image data with said first resolution image data in a second memory; and

means for selectively accessing either said data for the image at its first resolution or only the

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corresponding image data at said second resolution for any image stored in said bulk storage memory for further processing.

17. The apparatus of claim 16 wherein said means for selectively accessing allows access to a plurality of images at said second resolution and storage of them in selected blocks of memory in said first memory so that they may be further processed as a mosaic of reduced size images.

18. An apparatus for storing video pixel data representing video images of a first resolution and, for each image at a first resolution a corresponding video image at a second resolution comprising:

random access memory means for storing video pixel data representing a full size image at said first resolution and a corresponding reduced size version thereof at a second resolution;

means for storing one at a time in said random access memory means a plurality of said full size images;

memory means for receiving video pixel data from said random access memory means and for storing said full size images and the corresponding reduced size images received from said random access memory means and for outputting, upon a user's command, a selected full size image or only the corresponding reduced size image for the selected full size image for storage in said random access memory means;

means for generating said corresponding reduced size image from any said full size image in said random access memory means to be transferred to said memory means and for storing the video pixel data representing said reduced size image in said random access memory means prior to

-7-

storage of the contents of said random access memory means in said memory means.

19. An apparatus for storing video data as full size image and reduced size image of pixel data comprising:

random access memory means for storing video pixel data presented at an input port and having at least one output port;

means for storing video pixel data representing a full size video image at a first resolution in a first group of memory locations in said random access memory means;

bulk storage memory for storing video pixel data and for presenting selected blocks of video data at said input port for storage by said random access memory;

size reducing means coupled to said random access memory means for accessing said image video pixel data stored in said random access memory representing said full size image at said first resolution, and for reducing said image to a reduced size counterpart image at a second, lower resolution and for storing said reduced size image at said second resolution in said random access memory in a second group of storage locations therein; and

control means coupled to said random access memory means, said bulk storage means and to said size reducing means for causing said size reducing means to generate said reduced size image at said second resolution and to store same in said random access memory means in said second group of storage locations each time the video pixel data from said random access memory means is to be transferred to said bulk storage means for storage, and for causing the video pixel data from both said first and second plurality of memory locations in said random access memory means to be transferred to said bulk storage means for storage after said reduced size image is generated and

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stored in said second group of storage locations, and for causing selective transfer of video pixel data from said bulk storage means into said random access memory means for storage such that either said first resolution image or only the reduced size second resolution counterpart are transferred into said random access memory means.

20. The apparatus of claim 19 wherein said control means also is coupled for causing selective transfer of said second resolution image directly from said size reducing means into said bulk storage means.

21. The apparatus of claim 19 wherein said control means also is coupled for controlling the memory locations in said random access memory means where the video pixel data defining said second resolution image are stored upon transfer from said bulk storage means.

22. The apparatus of claim 21 wherein said size reducing means produces said second resolution image with 1/16th the resolution of said first resolution image and wherein said control means is coupled for causing transfer of said second resolution image into said random access memory for storage at a selected one of 16 predetermined blocks of memory locations.

23. A system for storing and retrieving video data representing video images which are displayed as rasters of vertically distributed horizontal lines, each represented video image normally occupying a raster of selected vertical and horizontal size, the system comprising:

a video image size reducer having an input coupled to receive video data representing a video image

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corresponding to a selected raster size and generate therefrom at an output video data representing a reproduction of said video image corresponding to a selected fractional-size of said selected raster size;

a first store having an input for receiving video data for storage and an output for providing video data retrieved from storage, said first store having a capacity for storing video data representing a video image corresponding to of the selected raster size together with video data representing a reproduction of a video image corresponding to the selected fractional-size of said selected raster size;

a second store having an input for receiving video data for storage and an output for providing video data retrieved from storage, said second store having a capacity for storing video data representing a plurality of video images each corresponding to a video frame of the selected raster size and video data representing the reproduction of each video image of selected fractional size of said selected raster size; and

means for selectively transferring from said first store to said second store either said video data representing a video image corresponding to the selected raster size or said video data representing a reproduction of a video image which is the selected fractional size of said selected raster size.

24. A method of storing video pixel data comprising:
receiving data for a full size image at a first resolution and generating therefrom data representing a reduced size reproduction image at a second, lower resolution;

storing both the full size and the reduced size image in a bulk storage medium; and

-10-

selectively accessing either the full size or said reduced size image from said bulk storage medium.

25. The method of claim 24 further comprising the steps of storing a plurality of full size images and their reduced size reproduction images and accessing a plurality of selected reduced size images and storing them in selected blocks of storage locations in a random access memory.

26. The method of claim 24 wherein each full size image occupies upon display a raster of selected vertical and horizontal size, and further comprising the steps of storing a plurality of full size images and their reduced size reproduction images and accessing a plurality of selected reduced size images and storing them in a random access memory and outputting the group of stored reduced size reproduction images as a mosaic of reproduction images occupying a raster of the selected vertical and horizontal size.

27. A method of storing video pixel data comprising:
receiving and storing in random access memory video pixel data comprising a full size image;

generating therefrom video pixel data representing a reproduction thereof in the form of a reduced size image at a lower resolution from the full size image data and storing the pixel data representing the reduced size image so generated in additional storage locations in said random access memory along with the full size image;

storing both the full size and the reduced size image in bulk storage memory;

selectively transferring either the full size image or the reduced size image from said bulk storage memory means

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into said random access memory means for further processing.

28. A video still store system comprising:

an image store for storing full size image data sets representing a plurality of full size images and for storing a plurality of reduced size image data sets representing a plurality of reduced size images, each of said reduced size image data sets corresponding to one of the full size image data sets;

an external source input for receiving from an external source full size image data sets;

✓ a memory for simultaneous storage of one of said full size image data sets and the corresponding one of said reduced size image data sets;

a size reducer means for receiving from said memory the stored one of said full size image data sets, and for producing and returning to said memory the corresponding reduced size image data set;

said memory being coupled and operative to selectively receive from either the external source input or the image store and to store said one of said full size image data sets, and to output as an output image the stored one of said full size image data sets, and to communicate to the size reducer the stored one of said full size image data sets, and to receive from the size reducer and to store the corresponding reduced size image data set, and to provide to the image store both the stored one of said full size image data sets and the corresponding reduced size image data set, and to receive from the image store and to store at different selected locations selected ones of said plurality of reduced size image data sets, and to output as said output image the stored selected ones such that the selected ones are disposed at different locations

-12-

within the output image or to receive and store from said image store only a full sized image data set; and

means to retrieve data from said memory and display it on a raster scanned video display.

REMARKS

The undersigned thanks the Examiner for the courtesy of the telephone interview. In response to the discussions therein of new claims written by the undersigned, said new claims are submitted herewith for examination based on the substance of the interview. Further, some of the now pending claims have been retained and amended to eliminate the problems under 35 U.S.C. Section 112 noted in the outstanding office action. New claim 28 is the Examiner's suggested rewrite of claim 9 with some minor changes in terminology and one additional element. We would like to add that this claim is a very good claim. We thank the Examiner for taking the time to write it.

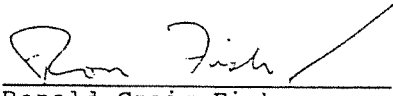
New claims 16 through 28 are in accord with the novelty identified by the Examiner in the first Office Action in the parent of the above identified U.S. patent application. Based upon the content of the Hugh Boyd, Quantel reference, which teaches accessing from disk the entire full size picture before size reduction can occur, these new claims are believed to be allowable. This is so because they teach storing a reduced image with the full size image each time a full sized image is to be stored from the frame buffer to the disk. This allows the user the option of retrieving the entire full size image or only the reduced size counterpart from disk. Mosaics of reduced size counterpart images may be made by accessing several reduced size images and moving them around in the frame buffer. The access time for each reduced size image

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is only a fraction of the access time for the entire full size image. This system obviously has a major advantage over the Boyd, Quantel system in that access time for a frame comprised of one or more reduced images will be substantially shorter than the Boyd, Quantel system can provide. This is because the Boyd, Quantel reference does not store a reduced image automatically with the full size counterpart each time a full size image in the frame buffer is to be stored on disk. Thus to access any particular reduced image, the entire full size image must be accessed and loaded into the size reducer. Clearly this takes more time than accessing only the data describing the reduced size image from the disk.

Respectfully submitted,
CIOTTI & MURASHIGE

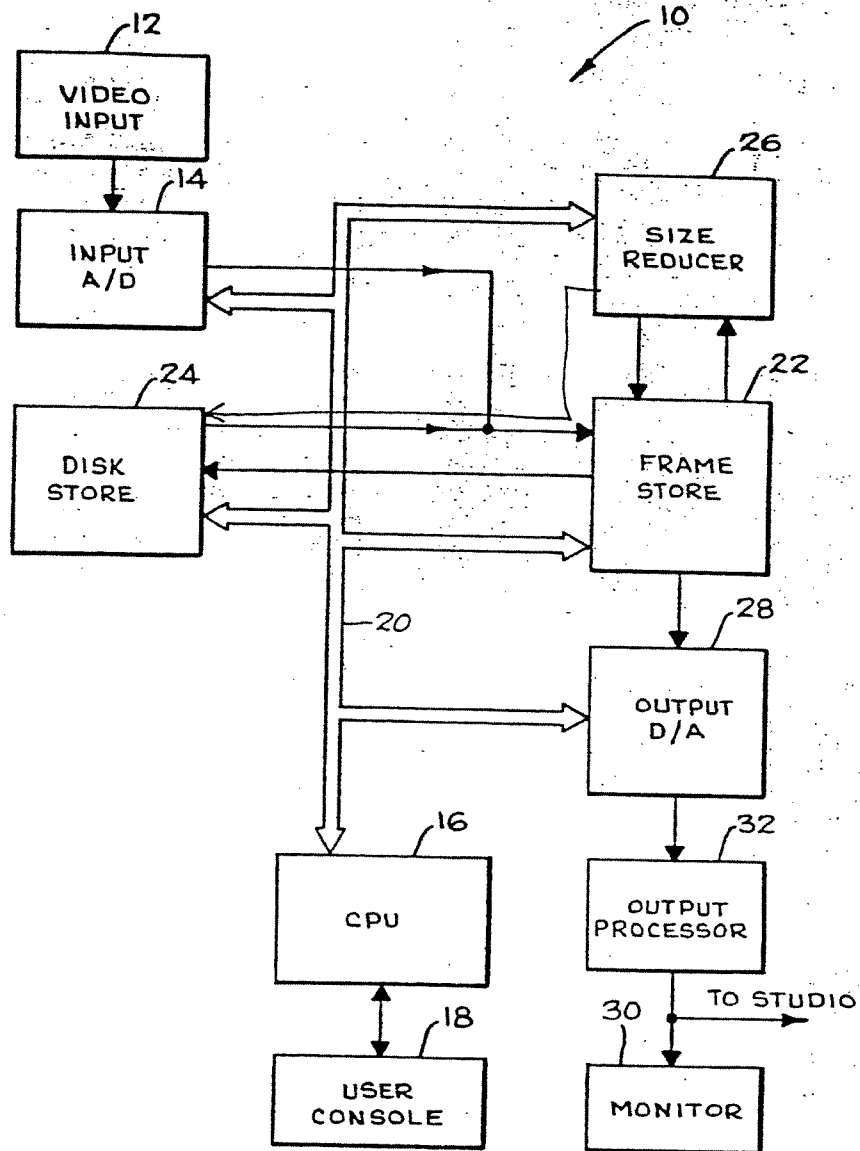
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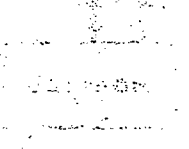
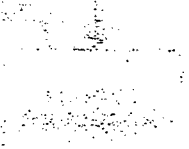


Ronald Craig Fish
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Menlo Park, California 94025
(415) 327-7250
20 November 1986
0323r

approved
DA 1/28/86





PAPER NO.
20



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D. C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
00/740,297	05/31/85	BEAULIER	AV-303041

AMPEX CORP.
401 BROADWAY, MS 235
REDWOOD CITY, CA 94063-3199

EXAMINER	
HARVEY, D.	
ART UNIT	PAPER NUMBER
262	20

DATE MAILED:

EXAMINER INTERVIEW SUMMARY RECORD

02/03/87

All participants (applicant, applicant's representative, PTO personnel):

(1) Mr. Ron Fish (3) _____

(2) David E Harvey (4) _____

Date of interview 1/28/87

Type: ☒ Telephonic ☐ Personal (copy is given to ☐ applicant ☐ applicant's representative).

Exhibit shown or demonstration conducted: ☐ Yes ☒ No. If yes, brief description: _____

Agreement ☐ was reached with respect to some or all of the claims in question. ☒ was not reached.

Claims discussed: proposed claims 2-4, 6, 7, and 15-28

Identification of prior art discussed: _____

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: Discussed

proposed amendment filed 11/20/86. Applicant's representative acknowledged the change in scope of proposed claims 16-28 in view of the finally rejected claims (see paper #20). Continuation to be filed.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

Unless the paragraphs below have been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., items 1-7 on the reverse side of this form). If a response to the last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the interview.

☒ It is not necessary for applicant to provide a separate record of the substance of the interview.

☐ Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action.

David E Harvey
Examiner's Signature

81-3679 PTOL-413 (rev. 1-81)

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PAPER NO.
21


**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
04-11-00000000	04/11/00	GENERAL	04-11-00000000

APPELLANT'S BRIEF
FILED IN RESPONSE TO FINAL REJECTION
RECEIVED IN THE OFFICE OF THE EXAMINER

EXAMINER	
APPROVED	
ART UNIT	PAPER NUMBER
001	21

DATE MAILED:

Below is a communication from the EXAMINER in charge of this application
COMMISSIONER OF PATENTS AND TRADEMARKS

ADVISORY ACTION☒ THE PERIOD FOR RESPONSE:

- ☐ is extended to run _____ from the date of the Final Rejection
- ☒ continues to run 6 months from the date of the Final Rejection
- ☐ expires three months from the date of the final rejection or as of the mailing date of this Advisory Action, whichever is later. In no event however, will the statutory period for response expire later than six months from the date of the final rejection.

Any extension of time must be obtained by filing a petition under 37 CFR 1.136(a), the proposed response and the appropriate fee. The date on which the response, the petition, and the fee have been filed is the date of the response and also the date for the purposes of determining the period of extension and the corresponding amount of the fee. Any extension fee pursuant to 37 CFR 1.17 will be calculated from the date that the shortened statutory period for response expires as set forth above.

☒ Appellant's Brief is due in accordance with 37 CFR 1.192(a).☒ Applicant's response to the final rejection, filed 11/20/86, has been considered with the following affect, but it is not deemed to place the application in condition for allowance:1. ☒ The proposed amendments to the claim and/or specification will not be entered and the final rejection stands because:

- a. ☐ There is no convincing showing under 37 CFR 1.116(b) why the proposed amendment is necessary and was not earlier presented.
- b. ☒ They raise new issues that would require further consideration and/or search. (See Note, see paragraph 1 of attachment)
- c. ☐ They raise the issue of new matter. (See Note).
- d. ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal.
- e. ☒ They present additional claims without cancelling a corresponding number of finally rejected claims.

NOTE: In proposed claim 16, line 14, "said bulk storage memory" has no antecedent basis, for example.

2. ☐ Newly proposed or amended claims _____ would be allowed if submitted in a separately filed amendment cancelling the non-allowable claims.3. ☒ Upon the filing of an appeal, the proposed amendment ☐ will be ☒ will not be, entered and the status of the claims in this application would be as follows:

Allowed claims: _____

Claims objected to: _____

Claims rejected: 2-15

However:

- a. ☐ The rejection of claims _____ on references is deemed to be overcome by applicant's response.
- b. ☐ The rejection of claims _____ on non-reference grounds only is deemed to be overcome by applicant's response.
4. ☐ The affidavit, exhibit or request for reconsideration has been considered but does not overcome the rejection.
5. ☐ The affidavit or exhibit will not be considered because applicant has not shown good and sufficient reasons why it was not earlier presented.

☒ The proposed drawing correction ☒ has ☐ has not been approved by the examiner.☐ Other

Serial No. 740,297

-2-

Art Unit 262

1. The proposed amendment filed November 20, 1986 raises new issues that would require further consideration and/or search.

a) In proposed claims 2-4, 6, 7, and 15, changes have been made to the terminology which changes the scope of the claimed system. For example, the recitation of a "frame store" in the corresponding finally rejected claims has been changed to "frame store means".

b) The proposed amendment adds additional claims 16-28 which differ in scope from the finally rejected claims. Proposed claims 16-28 introduce new terminology, add additional limitations, and delete limitations recited in the finally rejected claims. For example, the recitation of a "frame store" included in all of the finally rejected claims is not recited in proposed claims 16-28.

2. The examiner apologizes for the delay in responding to the proposed amendment and regrets any inconvenience to the applicant caused by the delay.

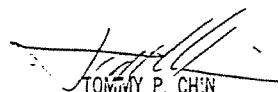
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Harvey whose telephone number is (703) 557-9165.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 557-3321.

D. Harvey-erb DJ

703-557-9165

01-30-87


TOMMY P. CHIN
PRIMARY EXAMINER
GROUP 262

PAPER NO.
23

**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
06/740,297	05/31/85	BEAULIER	D AV-3033N1

AMPEX CORP.,
401 BROADWAY, MS 3-35
REDWOOD CITY, CA 94063-3199

EXAMINER	
HARVEY, D	
ART UNIT	PAPER NUMBER
262	23

DATE MAILED:

04/21/87

NOTICE OF ABANDONMENT

This application is abandoned in view of:

1. ☐ Applicant's failure to respond to the Office letter, mailed _____.
2. ☒ Applicant's letter of express abandonment which is in compliance with 37 C.F.R. 1.138.
3. ☐ Applicant's failure to timely file the response received _____ within the period set in the Office letter.
4. ☐ Applicant's failure to pay the required issue fee within the statutory period of 3 months from the mailing date of _____ of the Notice of Allowance.
 - ☐ The issue fee was received on _____.
 - ☐ The issue fee has not been received in Allowed Files Branch as of _____.

In accordance with 35 U.S.C. 151, and under the provisions of 37 C.F.R. 1.316(b), applicant(s) may petition the Commissioner to accept the delayed payment of the issue fee if the delay in payment was unavoidable. The petition must be accompanied by the issue fee, unless it has been previously submitted, in the amount specified by 37 C.F.R. 1.17 (l), and a verified showing as to the causes of the delay.

If applicant(s) never received the Notice of Allowance, a petition for a new Notice of Allowance and withdrawal of the holding of abandonment may be appropriate in view of *Delgar Inc. v. Schuyler*, 172 U.S.P.Q. 513.

5. ☐ Applicant's failure to timely correct the drawings and/or submit new or substitute formal drawings by _____ as required in the last Office action.
 - ☐ The corrected and/or substitute drawings were received on _____.
6. ☐ The reason(s) below.

James J. Groody
James J. Groody
Supervisory Patent Examiner
Art Unit 262
David Harvey
(703) 557-9765

PAPER NO.
24

018786

PATENT APPLICATION SERIAL NUMBER

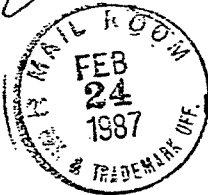
U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

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N-21-87

24/6

P 30336 03/09/87 018786
P 30337 03/09/87 018786

01-1771	030	101	340.00CH
01-1771	030	102	204.00CH



PATENT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Docket No. AV-3033N1
 Anticipated Classification of this application:
 Class 358 Subclass _____
 Prior application:
 Examiner: D. Harvev
 Art Unit: 262

Commissioner of Patents and Trademarks
 Box FWC
 Washington, D.C. 20231

FILE WRAPPER CONTINUING APPLICATION (FWC)

WARNING: This form cannot be used where the parent case may not be abandoned since the filing of a request under the FWC procedure "will be considered to be a request to expressly abandon the prior application as of the filing date granted to the continuing application." 37 CFR 1.62(g).

WARNING: This procedure can only be used for a pending application prior to payment of the issue fee. 37 CFR 1.62(a).

WARNING: The claims of this new application may be finally rejected in the first Office action where all claims of the new application are drawn to the same invention claimed in the earlier application and would have been properly finally rejected on the grounds or art of record in the next Office action if they had been entered in the earlier application. MPEP § 706.07(b).

WARNING: Filing under 37 CFR 1.62 is permitted only if filed by the same or less than all the inventors, named in the prior application.

I. This is a request for a filing under the file wrapper continuing application procedure, 37 CFR 1.62, for a

- ☒ continuation
☐ divisional
☐ continuation-in-part (for oath or declaration see II below)
☐ attached is an amendment for added subject matter

of prior complete application Serial No. _____, filed on _____

NOTE: The filing date under 37 CFR 1.62(a) is "The date on which a request is filed for an application. . . including identification of the Serial Number, filing date and applicant's name of the prior application". According to 37 CFR 1.51(a) a prior complete application comprises: (1) a specification, including a claim or claims, (2) a

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this FWC transmittal and the documents referred to as attached therein are being deposited with the United States Postal Service on this date February 23, 1987 in an envelope as "Express Mail Post Office to Addressee" mailing Label Number B32420631 addressed to the: Commissioner of Patents and Trademarks Washington, D.C. 20231

Jessica E. Erickson

(Type or print name of person mailing paper)

Jessica E. Erickson

(Signature of person mailing paper)

NOTE: Each paper or fee filed by "Express Mail" has the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 CFR 1.10(b).

(FWC [4-2]—page 1 of 8)

declaration, (3) drawings, when necessary and (4) the prescribed filing fee. Accordingly, as presently worded, 37 CFR 1.62 does not permit the FWC procedure to be used where the prior application is pending but only the processing and retention fee required by 37 CFR 1.21(f) is paid.

(further particulars of prior application are)

1. Title (as originally filed Electronic Still Store With High Speed Sorting
and as last amended) Same /And Method Of Operation
2. Name of applicant(s) (as originally filed and as last amended) and current correspondence address of applicant(s)

1. FULL NAME OF INVENTOR	FAMILY NAME <u>Beaulier</u>	FIRST GIVEN NAME <u>Daniel</u>	SECOND GIVEN NAME <u>Alfred</u>
CITY	STATE OR FOREIGN COUNTRY <u>California</u>		COUNTRY OF CITIZENSHIP <u>U.S.A.</u>
POST OFFICE ADDRESS	CITY <u>Menlo Park</u>	STATE & ZIP CODE/ COUNTRY <u>U.S.A. California 94025</u>	
2. FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
CITY	STATE OR FOREIGN COUNTRY		COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/ COUNTRY	
3. FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
CITY	STATE OR FOREIGN COUNTRY		COUNTRY OF CITIZENSHIP
POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/ COUNTRY	

(Add similar information for additional inventors, if applicable)

The above identified application in which no payment of issue fee, abandonment of, or termination of proceedings has occurred, is hereby expressly abandoned as of the filing date of this new application. Please use all the contents of the prior application file wrapper, including the drawings, as the basic papers for the new application.

It is understood that secrecy under 35 U.S.C. 122 is hereby waived to the extent that if information or access is available to any one of the applications in the file wrapper of a 37 CFR 1.62 application, be it either this application or a prior application in the same file wrapper, the PTO may provide similar information or access to all the other applications in the same file wrapper.

(FWC [4-2]—page 2 of 8)

II. Inventorship statement

NOTE: "If the continuation, continuation-in-part, or divisional application is filed by less than all the inventors named in the prior application a statement must accompany the application when filed requesting deletion of the names of the person or persons who are not inventors of the invention being claimed in the continuation, continuation-in-part, or divisional application." 37 CFR 1.62(a) [emphasis added].

NOTE: "In the case of a continuation-in-part application which adds and claims additional disclosure by amendment, an oath or declaration as required by § 1.63 must be filed. In those situations where a new oath or declaration is required due to additional subject matter being claimed, additional inventors may be named in the continuing application. In a continuation or divisional application which discloses and claims only subject matter disclosed in a prior application, no additional oath or declaration is required and the application must name as inventors the same or less than all the inventors in the prior application." 37 CFR 1.60(c).

(complete applicable item (a) or (b) below)

- (a) ☒ This application discloses and claims only subject matter disclosed in the prior application whose particulars are set out above and the inventor(s) in this application are
- ☒ the same
- ☐ less than those named in the prior application and it is requested that the following inventor(s) identified above for the prior application be deleted:

(Type name(s) of inventor(s) to be deleted)

- (b) ☐ This application discloses and claims additional disclosure by amendment and a new declaration or oath is being filed. With respect to the prior application whose particulars are set out above the inventor(s) in this application are
- ☐ the same
- ☐ add the following additional inventor(s)

(Type name of inventor(s) to be added)

- (c) The inventorship for all the claims in this application are
- ☒ the same
- ☐ not the same, and an explanation, including the ownership of the various claims at the time the last claimed invention was made, is submitted.

III. Declaration or oath**A. Continuation or divisional**

- ☒ none required

B. Continuation-in-part

- ☐ attached
- ☐ an original

executed by (check all applicable items)

- ☐ inventor(s).
- ☐ legal representative of inventor(s) 37 CFR 1.42 or 1.43.
- ☐ joint inventor or person showing a proprietary interest for inventor who refused to sign or cannot be reached. 37 CFR 1.47;
- ☐ This is the petition required by 37 CFR 1.47 and the statement required by 37 CFR 1.47 is also attached. See item VI below for fee.

(FWC [4-2]—page 3 of 8)

☐ not attached

Application is made by a person authorized under 37 CFR 1.41(c) on behalf of all of the above named applicant(s). The declaration or oath, along with the surcharge required by 37 CFR 1.16(e) can be filed subsequently.

☐ showing that the filing is authorized. (Not required unless called into question. 37 CFR 1.41(d)).

IV. Fee Calculation—Amendments

WARNING: "The claims of a new application may be finally rejected in the first Office action in those situations where (1) the new application is a continuing application of, or a substitute for, an earlier application, and (2) all the claims of the new application (a) are drawn to the same invention claimed in the earlier application, and (b) would have been properly finally rejected on the grounds of art of record in the next Office action if they had been entered in the earlier application." MPEP, § 706.07(b).

- ☒ The fees to be charged are to be based on the number of claims remaining as a result of the
- ☒ attached preliminary amendment
 - ☐ the unentered amendment filed under 37 CFR 1.116 in the prior application, which is now repeated
 - ☐ the claims as on file in the prior application

CLAIMS FOR FEE CALCULATION						
	Number Filed		Number Extra		Rate	Basic Fee \$340
Total Claims	19	— 20 =	0	x	\$ 12.00	0
Independent Claims	9	— 3 =	6	x	\$ 34.00	\$204.00
Multiple dependent claim(s), if any					\$ 110.00	0

☐ The fee for extra claims is not being paid at this time.

Filing fee calculation

\$ 544.00

NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 CFR 1.16(d).

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AX061687

V. Small Entity Statement

- ☐ A verified statement that this is a filing by a small entity is attached.
- ☐ The small entity statement was filed in the parent application Serial No. _____ on _____ and its benefit under 37 CFR 1.28(a) is hereby claimed.

Filing fee calculation (50% of above)

\$ _____

NOTE: 37 CFR 1.28(a) states "Status as a small entity must be specifically established by a verified statement filed in each application or patent in which the status is available and desired, except those applications filed under §1.60 or §1.62 of this part where the status as a small entity has been established in a parent application and is still proper."

The last sentence of 37 CFR 1.28(a) states: "Applications filed under §1.60 or §1.62 of this part must include a reference to a verified statement in a parent application if status as a small entity is still proper and desired."

Any excess of the full fee paid will be refunded if a verified statement and a refund request are filed within 2 months of the date of timely payment of a full fee then the excess fee paid will be refunded on request. 37 CFR 1.28(a).

VI. Fee Payment Being Made at This TimeNot attached

- ☐ No filing fee is submitted. This and the surcharge required by 37 CFR 1.16(e) can be paid subsequently.

Attached

- ☒ filing fee \$ 544.00
- ☐ recording assignment (\$20.00; 37 CFR 1.21(h)(i)). See item xi below. \$ _____
- ☐ petition fee for filing by other than all the inventors or person not the inventor where inventor refused to sign or cannot be reached (\$120.00; 37 CFR 1.47 and 1.17(h)) \$ _____
- ☐ processing and retention fee (\$100.00; 37 CFR 1.53(d) and 1.21(i)) \$ _____

NOTE: 37 CFR 1.21(i) establishes a fee for processing and retaining any application which is abandoned for failing to complete the application pursuant to 37 CFR 1.53(d) and this, as well as, the changes to 37 CFR 1.53 and 1.78 indicate that in order to obtain the benefit of a prior U.S. application, either the basic filing fee or the processing and retention fee in § 1.21(i) must be paid within 1 year from the notification under § 1.53(d).

Total fees enclosed \$ 544.00

VII. Method of Payment of Fees

- ☐ attached is check in the amount of \$ _____
- ☒ charge Account No. 01-1771 in the amount of \$ 544.00

A duplicate of this request is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 CFR 1.22(b).

VIII. Authorization to Charge Additional Fees

NOTE: If no fee payment is made at this time this item should not be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges if extra claim charges are authorized.

- ☐ The Commissioner is hereby authorized to charge the following additional fees which may be required to Account No. _____
- ☐ 37 CFR 1.16 (filing fees)
- ☐ 37 CFR 1.16 (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.17(d)) it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

- ☐ 37 CFR 1.17 (application processing fees)
- ☐ 37 CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b)).

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance, 37 CFR 1.311(b).

From the wording of 37 CFR 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity. Notification of any change of status resulting in loss of entitlement to small entity status must be filed in the application prior to, or at the time of, paying the issue fee. 37 CFR 1.28(b).

IX. Instructions as to Overpayment

- ☒ credit Account No. 01-1771
- ☐ refund

X. Priority—35 U.S.C. 119

- ☐ Priority of application Serial No. _____ filed on _____ in _____ is claimed under 35 U.S.C. 119. (country)

- ☐ The certified copy has been filed in prior U.S. application Serial No. _____ filed _____
- ☐ certified copy will follow

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XI. Relate Back—35 U.S.C. 120

☐ Amend the specification by inserting before the first line the sentence:

This is a

- ☒ continuation
☐ divisional
☐ continuation-in-part

of co-pending application Serial No. 740,297 filed on
May 31, 1985, *now abandoned, which is a continuation of application*

XII. Assignment Serial No. 483,327, *now abandoned.*

☒ the prior application is assigned of record to Ampex Corporation,
401 Broadway, Redwood City, CA 94063, USA

☐ an assignment of the invention to _____

 is attached.

XIII. Power of Attorney

The power of attorney in the prior application is to
Joel D. Talcott et al 25,709
 Attorney Reg. No.

- d. ☐ The power appears in the original papers in the prior application.
 e. ☒ The power does not appear in the original papers, but was filed on 6/6/83
 f. ☐ A new power has been executed and is attached.
 g. ☒ Address all future communications to:

Richard P. Lange 27,296
 Name Reg. No.
Ampex Corporation, 401 Broadway, MS 3-35
 Address
Redwood City, CA 94063 (415)367-3338
 Tel. No.

(Item g may only be completed by applicant, or attorney or agent of record).

XIV. Maintenance of Coadependency of Prior Application

(This item must be completed and the papers filed if the period set in the prior application has run)

☐ A petition, fee and response has been filed to extend the term in the pending prior application until _____

XV. Conditional Petitions for Extension of Time in Parent Application

(complete this item if previous item not applicable)

☐ a conditional petition for extension of time is being filed in the pending parent application

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XVI. Abandonment of Prior Application

- ☒ Please abandon the prior application at a time while the prior application is pending or when the petition for extension of time in that application is granted and when this application is granted a filing date so as to make this application copending with said prior application.

NOTE: According to the Notice of May 13, 1983 (103, TMOG 6-7) the filing of a continuation or continuation-in-part application is a proper response with respect to a petition for extension of time or a petition to revive and should include the express abandonment of the prior application conditioned upon the granting of the petition and the granting of a filing date to the continuing application.

Richard P. Lange
Type or print name of person signing

Richard P. Lange
Signature

Date
February 23, 1987

P.O. Address of Signatory
401 Broadway,
Redwood City, CA 94063

Tel. No.: (415) 367-3338

Reg. No. 27,296
(if applicable)

☐ Inventor
☐ Assignee of complete interest
☐ Person authorized to sign on behalf of assignee
☒ Attorney or agent of record
☐ Filed under Rule 34(a)

(Complete the following if applicable)

Type name of assignee
Ampex Corporation

Address of assignee
401 Broadway,
Redwood City, CA 94063

Title of person authorized to sign on behalf of assignee Assistant Patent Counsel

Assignment recorded in PTO on June 16, 1983

Reel 4194 Frame 584

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